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Self- and peer-rated character strengths: How do they relate to satisfaction with life and orientations to happiness?

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Running head: CHARACTER AND LIFE SATISFACTION

Self- and peer-rated character strengths:

How do they relate to satisfaction with life and orientations to happiness?

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Abstract

This paper addresses the question as to whether previously reported findings on a positive relation between character strengths, satisfaction with life and orientations to happiness can be replicated for peer-ratings of character strengths. A sample of 334 Swiss adults completed questionnaires and collected informant ratings by 634 peers. Self- and peer ratings converged well and suggest that, primarily: the strengths of hope, zest, and curiosity—but also gratitude and love—play key roles in the interplay of strengths and satisfaction with life. Peer-ratings of strengths also related positively with the endorsement of a pleasurable, engaged, and meaningful life. Further analyses show that the orientations to happiness predict satisfaction with life beyond self- and peer rated character strengths. There, the engaged life (i.e., endorsement of flow) was most relevant. This study supports earlier findings that argue for an important role of character strengths when describing the well-being of a person.

Keywords: character strengths, life satisfaction, self and peer-ratings, VIA, well-being

Self- and peer-rated character strengths:

How do they relate to satisfaction with life and orientations to happiness?

The question of how individuals can achieve enduring happiness has been an important topic of discussion from the time of ancient philosophers to today's empirical researchers of various disciplines. Various aspects of well-being such as life satisfaction have been studied in relation to demographics, health issues, social contact, activity, personality and many other variables. Recently, the idea that traits valued as morally positive (strengths of character) are robustly related to satisfaction with life has gained considerable attention in the literature and encourages further research along these lines.

Character strengths and life satisfaction. Virtues and character have become important topics of research in positive psychology (Dahlsgaard, Peterson, & Seligman, 2005). One influential contribution to this area is Peterson and Seligman's (2004) *Values in Action* (VIA) classification of character strengths and virtues. With regard to individual differences, the authors developed a hierarchy of twenty-four specific strengths organized under six universal virtues (i.e., wisdom and knowledge, courage, humanity, justice, temperance, and transcendence). This classification identifies components of good character and enables systematic research on human strengths. The idea is that pursuing the strengths enables the practice of a virtue (e.g., living with an appreciation of beauty and excellence, gratitude, hope, humor, and religiousness enables *transcendence*). Peterson, Park, and Seligman (2005a) authored a questionnaire for the assessment of the twenty-four strengths; i.e., the *Values in Action Inventory of Strengths* (VIA-IS). Ever since its publication, it has been used widely in research and its psychometric properties are well-established (e.g., Peterson & Seligman, 2004; Park, Peterson, & Seligman 2006; Peterson, Park, Pole, D'Andrea, & Seligman, 2008).

There is strong empirical evidence for the notion that character strengths are positively related to life satisfaction in adolescents and adults (e.g., Brdar, Anić, & Rijavec, 2011; Gander, Proyer, Ruch, & Wyss, 2012; Khumalo, Wissing, & Themane, 2008; Littman-Ovadia, & Lavy, 2012; Park & Peterson, 2006ab; Park, Peterson, & Seligman, 2004ab; Peterson, Ruch, Beermann, Park, & Seligman, 2007; Proyer, Gander, Wyss, & Ruch, 2011; Ruch, Huber, Beermann, & Proyer, 2007; Ruch, Proyer, Harzer, Peterson & Seligman, 2010; Ruch, Proyer, & Weber, 2010ab; Ruch, Weber, Park, & Peterson, in press). A major finding among these studies, which have been conducted in multiple samples and cultures, is that the character strengths of curiosity, gratitude, hope, love, and zest are consistently the strengths most highly correlated with life satisfaction. It should be noted, however, that some of the correlation coefficients reported in these studies appear to be almost unrealistically high. For example, the highest correlations found for a strength were typically between .50 and .60, making strengths appear to be the prime predictor of life satisfaction and thus explaining 30% of the variance in happiness. As a comparison, variables such as the Big Five personality factors and overall subjective well-being yielded coefficients between -.22 (*Neuroticism*) and .21 (*Conscientiousness*; weighted correlation coefficients from the meta-analysis by DeNeve & Cooper, 1998). Thus, character strengths and life satisfaction might share some unwanted variance and artificially inflate the correlation coefficients. When Park et al. (2004b) correlated rank ordered strengths and satisfaction with life, the highest correlating strengths (i.e., hope) yielded coefficients of an absolute size between .31 and .45; i.e., they were approximately 15% lower on average. Likewise, some of the strengths, such as modesty, creativity and appreciation of beauty, typically yielded low coefficients of around .10. Nevertheless, it seems to be widely accepted that the direct contribution of strengths to life satisfaction differs from strength to strength (see Peterson

et al., 2007). Additionally, a recent experimental study showed that interventions targeted at strengths that typically correlate highly with life satisfaction led to an increase in well-being in comparison with a group that trained strengths that typically correlate low with life satisfaction and a wait-list group (Proyer, Ruch, & Buschor, in press). This can be seen as preliminary evidence that there also seems to be a causal relation between an increase in some strengths and a gain in life satisfaction.

It should be noted that none of the previously mentioned studies on the relation between character strengths and life satisfaction have used ratings from knowledgeable informants on strengths in adults and compared them with the results derived from self-ratings. It is presently unknown whether there is a bias in the data based on self-ratings of the subjects' own strengths with regard to their relation with life satisfaction. An ideal study would be one that utilized self- and peer ratings of character strengths and compared their relation to satisfaction with life. If it happened to be that the results converge well, it could be assumed that some strengths might be more relevant to well-being than others. However, satisfaction with life is not the only criterion for a good life and subjective well-being (see also Diener, 1994).

Orientations to happiness and satisfaction with life. Based on a review of literature ranging from ancient philosophers to modern psychologists, Peterson, Park and Seligman (2005b; based on Seligman, 2002) describe three ways of obtaining happiness; i.e., *pleasure*, *engagement*, and *meaning*. The central assumption for the life of pleasure is that people experience happiness by maximizing pleasure and minimizing pain (Peterson et al. 2005b). The engaged life evolved from the concept of flow (Csikszentmihalyi, 1990), which describes a psychological state that accompanies highly engaging activities. This “optimal experience” was found to be associated with higher well-being (e.g., Csikszentmihalyi & LeFevre, 1998). The

third way of obtaining happiness is by way of living the life of meaning, which is based on the concept of eudemonia. Here, people achieve happiness by identifying their virtues, cultivating them, and living in accordance with them (Seligman, 2002).

Peterson et al. (2005b) developed the *Orientations to Happiness Scale* (OTH). This is an 18-item measure for the subjective assessment of these three orientations. Various studies underline its good psychometric properties and validity (e.g., Chen, 2010; Park et al., 2009; Peterson et al., 2007; Proyer, Annen, Eggimann, Schneider, & Ruch, 2012; Proyer, Ruch, & Chen, 2012; Ruch, Harzer, Proyer, Park, & Peterson, 2010; Schueller & Seligman, 2010; Vella-Brodrick, Park, & Peterson, 2009). One can conclude that each of these orientations individually predicts life satisfaction and that they correlate with each other without being interchangeable. People living a “full life” (i.e., high expressions in all three domains) yield the highest scores in life satisfaction. Peterson et al. (2007) used the VIA-IS and the OTH together and concluded that “[...] those strengths of character most associated with life satisfaction were also associated with all three orientations to happiness” (p. 153) and “[...] although the orientations to happiness that we measured partly mediated the associations between strengths of character and life satisfaction, they did not fully explain them” (p. 149). Giannopoulos and Vella-Brodrick (2011) demonstrated that positive interventions fostering the three orientations led to improved well-being. This indicates that there is a positive relation between self-ratings of character strengths and well-being measures.

Self- and peer-rated character strengths. Authors working previously with the VIA-IS were aware of problems that occur when using subjective measures. Self-reports can be distorted for many reasons (e.g., socially desirable answers, answer tendencies, response styles, etc.). Thus, the question arises as to whether the method itself may be biased—and whether this has an

impact on the interpretation of the findings. In other words, when only one method is used, “[...] one has no way of distinguishing trait variance from unwanted method variance” (Campbell & Fiske, 1959, p. 102). Also, one might argue that self-ratings in morally positively valued traits are more prone to socially desirable answers than traits that are not morally connoted. Other authors note that limitations of self-report instruments are even more pronounced when performing correlational studies “[...] it can be argued that shared artifacts of defensiveness, extreme responding, or acquiescence account for the associations” (McCrae, 1982, p. 294).

A number of different strategies were employed to avoid potential pitfalls when working with the VIA-IS. For example, using rank ordered strengths instead of raw scores, or testing for correlations of the VIA-IS with social desirability scales (e.g., Park et al., 2004b; Proyer et al., 2011; Ruch, Proyer, et al., 2010). While these strategies can be useful for addressing some of the problems, Ruch, Proyer et al. (2010) also suggested for the inclusion of peer ratings when working in this area. This follows a claim to use multi-method approaches in research (e.g., Eid & Diener, 2006). The convergence between self- and peer-rated VIA-strengths has already been tested and the correlation coefficients yielded a median of .40 and ranged between .26 (honesty) and .69 (religiousness; Ruch, Proyer, et al., 2010). This suggests that both research techniques converge well and in the expected range for personality measures (see Connolly, Kavanagh, & Viswesvaran, 2007). Nevertheless, one can argue that only between 7 and 49% of the variance in the self-report of strengths is accounted for by the peer-rated strengths. In other words, between 51% and 93% of the variance (minus the variance due to measurement error in both scales) may be due to method variance and other factors.

Aims of the present study. This study addresses the relation between self- and peer reported strengths of character and life satisfaction and three orientations to happiness. Its main

aim was threefold. First correlations between self-reports of character strengths and life satisfaction were computed. This was aimed at replicating prior findings; the strengths of zest, hope, love, gratitude and curiosity were expected to demonstrate the numerically highest correlation coefficients with life satisfaction and the three orientations to happiness (e.g., Park et al., 2004b; Peterson et al., 2007). Second, the relationship of peer-rated character strengths with life satisfaction and the three orientations to happiness were tested. Overall, we expected peer-rated strengths to yield a similar correlation pattern as the one reported in earlier studies using self-ratings (i.e., highest relations of hope, zest, curiosity gratitude, and love with life-satisfaction and positive relations to the pleasurable, engaged, and meaningful life)—yet with coefficients of smaller size. Further, we expected that the coefficients are more similar in strengths were self- and peer assessed strengths converge better (e.g., religiousness) compared to those with worse convergences (e.g., honesty). Overall, the rank order of size of correlations was expected to converge well for self- and peer-assessed strengths. Third, in an extension to findings by Peterson et al. (2007), we tested whether the orientations to happiness (OTH) contribute to satisfaction with life when its relation to character strengths (VIA-IS or VIA-IS peer) was controlled for. We expected that, in a regression analysis, the VIA-IS would explain most of the variance, but that an additional, smaller, portion of life satisfaction was accounted for by the OTH. Also, peer-rated character strengths were expected to contribute to the prediction of life satisfaction.

Method

Research participants

The *self-rating sample* consisted of 334 adults ($n = 121$ males, $n = 213$ females) from 18 to 77 years ($M = 40.48$, $SD = 15.62$), who registered for a positive psychology intervention program at the institution of the investigators. They were from the Zurich in the German speaking part of

Switzerland. The largest portion (40.7%) had completed a vocational education, and further 24.9% had a degree from a college of higher education and 23.4% held a university degree.

The *peer-rating sample* consisted of 636 raters ($n = 236$ males and $n = 387$ females, 13 raters did not indicate their gender) with an age range from 18 to 81 ($M = 44.17$, $SD = 14.19$). 40.0% completed a vocational education, 24.3% degree from a college of higher education and 22.8% held a degree from university.

Measures

The *Values in Action Inventory of Strengths* (VIA-IS; Peterson, Park & Seligman, 2005a) consists of 240 items (10 per scale) and measures the 24 strengths of the VIA-classification. It utilizes a 5-point Likert-style answer scale (1 = “*very much unlike me*” to 5 = “*very much like me*”). A sample item is “I have lots of energy” (zest). Ruch, Proyer et al. (2010) reported that the German adaptation of the scale yielded highly comparable psychometric properties compared to the US-form. For example, the median of reliability coefficients (Cronbach alpha) was .77, the test-retest correlation across nine months was .73, and self- and peer-ratings converged in the expected range (median = .40). The VIA-IS (in its English and German form as used in the present study) has been used in a broad variety of studies that provide further support for its reliability and validity (e.g., Güsewell & Ruch, 2012; Harzer & Ruch, in press, 2012; Ma et al., 2008; Müller & Ruch, 2011; Park et al., 2006; Peterson & Seligman, 2004; Proyer et al., 2011). The German VIA-IS has a robust five-factor structure; the factors are labeled (a) strengths of restraint; (b) intellectual strengths; (c) interpersonal strengths; (d) emotional strengths; and (e) theological strengths. Additionally, a two-factor solution is well replicable if using ipsative data; i.e., (a) strengths of the heart vs. mind; and (b) strengths focusing on self vs. on others. These factors were found for the standard form VIA-IS and also for a peer rating form in Ruch, Proyer

et al. (2010; see also Güsewell & Ruch, 2012; Proyer, & Ruch, 2011). Alpha-coefficients for all instruments used in this study are given in Table 1.

The *Values in Action Inventory of Strengths peer rating form* (VIA-IS peer; Ruch, Proyer et al., 2010) consists of the same 240 items as the VIA-IS only rephrased into the third person singular (e.g., “He/she has lots of energy”; zest). Answers are given on a five-point Likert-scale (from 1 = “*very much unlike him/her*” to 5 = “*very much like him/her*”). In the Ruch et al. (2010) study, the VIA-IS peer yielded satisfactory reliability coefficients (i.e., median of alpha-coefficients = .81) and had a robust factor structure similar to the one of the VIA-IS (Peterson & Seligman, 2004).

The *Orientations to Happiness Scale* (OTH; Peterson et al., 2005b) assesses three routes to happiness; i.e., the life of pleasure (e.g., “Life is too short to postpone the pleasures it can provide”), life of engagement (“I am always very absorbed in what I do”) and life of meaning (“I have a responsibility to make the world a better place”). The OTH consists of 18 items (six per scale). Answers are given on a 5-point scale (1 = “*very much unlike me*” to 5 = “*very much like me*”). In the present study, the German adaptation (Ruch, Harzer et al., 2010) has been used. The German language OTH has a robust three-factor structure comparable to the US-version, is reliable (the mean of Cronbach-alpha coefficients across two samples was .71) and stable (i.e., a mean test-retest correlation of .70 for a three- and a six-months interval), and self- and peer-reported orientations to happiness converged well with a median of .50. The German OTH has been used in a broad range of studies supporting its good psychometric properties and validity (e.g., Proyer, 2012; Proyer, Annen et al., 2012; Proyer et al., 2012; Ruch, Proyer, & Weber, 2010b).

The *Satisfaction With Life Scale* (SWLS; Diener, Emmons, Larsen, & Griffin, 1985) is a

global measure for life satisfaction. It consists of five items in total (e.g., “If I could live my life over, I would change almost nothing”). It utilizes a 7-point answer format (“*strongly disagree*” to “*strongly agree*”). The SWLS has excellent psychometric properties (e.g., an alpha-coefficient of .86 in Ruch, Proyer et al., 2010) and is widely used in research. The German version has been previously used in a variety of studies (e.g., Gander, Proyer, Ruch, & Wyss, in press; Peterson et al., 2007; Proyer, 2012; Ruch, Harzer et al., 2010; Ruch, Proyer et al., 2010; Ruch et al., 2010b).

Procedure

Data were collected among people who registered for a positive psychology-training program. The program was advertised as “Train your strengths” and participants completed a broad range of measures including those reported here. Proyer et al. (in press) give a full description of the program. They were recruited via reports in newspapers, pamphlets, and an announcement on the website of a psychology department at a Swiss university. They had to be 18 years or older and were not allowed to undergo any psychological or psychiatric treatment (and/or to be consuming psychotropic drugs; inclusion criteria). Other than that there were no further restrictions for participation. Furthermore, the number of students of psychology was strictly limited (under 5%). We mailed the questionnaires to the participants and all data were collected before the program started (all from the baseline measurement).

Before the training program started, the participants had to recruit two friends and/or relatives that provided peer ratings on their strengths of character (using the VIA-IS peer form). The acquaintanceship between the peer and the target person is very familiar (ratings were obtained via the item “I know the person ...” with answer categories from 1 = “a little bit” to 9 = “very well”; $M = 8.24$, $SD = 1.00$). Participants had known each other for 17 years on average ($SD = 13$ years); 20.4% asked their partner, 25.7% asked another family member and 39.1%

asked a friend to complete the peer-rating questionnaires. Out of the full sample, seven peer-raters indicated that they knew the target person for less than a year (between six and nine months) but since they indicated that they knew the target person well they were retained in the sample. In total, 5.6% of the participants knew the target person for less than two years. On the other side of the distribution, nine participants indicated to know the target person for 45 years or longer and half of the participants indicated to know the target person for at least 15 years.

Data from the two raters were averaged for all analyses (across all 24 strengths, the correlations between the pairs of raters ranged between .15 and .48, median = .29); 32 participants only provided one peer-rating and this was then used for the following analyses. To prevent possible answer biases (e.g., impression management, socially desirable, response behavior), we informed the participants that the peer ratings had to be sent directly to the department in a sealed envelope and that the target person would not have access to these ratings (and that these ratings would not be part of the feedback given to the person at the end of the program). All data were collected in paper-pencil format. Neither of the participants was paid for his/her services nor did they have to pay for their participation.

Results

Skewness and kurtosis indicated normal distribution for all variables in the study. Correlations with demographics (age, sex, educational status) replicated earlier findings with the German VIA-IS (Ruch, Proyer et al., 2010). Results are not reported in full detail here but they indicated that some of the strengths varied with age and gender (small to medium effect sizes); the correlations ranged between $-.12$ ($p < .05$; social intelligence) and $.16$ ($p < .01$; self-regulation) between strengths and age (median = $-.01$) and between $-.17$ (spirituality) and $.31$ (both $p < .01$; love of learning) with the educational level (median = $.03$). Gender differences

were found for curiosity (women > men; $d = 0.24$), love (women > men; $d = .29$), social intelligence (women > men; $d = .34$), self-regulation (men > women; $d = .27$), appreciation of beauty and excellence (women > men; $d = .46$), and gratitude (women > men; $d = .24$). The life of pleasure correlated with younger age ($r = -.18, p < .01$) and the engaged life with higher educational level ($r = .16, p < .01$); men and women did not differ in their endorsement of the three orientations to happiness. Therefore, age, gender, and education were controlled in the subsequently conducted analyses. The intercorrelations among the VIA-IS-scales ranged between $r = -.15$ (bravery and modesty) and $.68$ (both $p < .01$; curiosity and love of learning; median = $.31$). Nineteen out of the 276 correlations were $\geq .51$. The median of the intercorrelations was $.35$ for the peer-ratings; lowest = $-.15$ (creativity and modesty) and highest = $.73$ (both $p < .01$; open-mindedness and perspective). In the peer-ratings, fifty out of the 276 correlation coefficients were $\geq .50$. Intercorrelations in the OTH were $r = .34$ between pleasure and engagement, $r = .32$ between engagement and meaning (both $p < .01$) and $r = .12$ (*n.s.*) between pleasure and meaning.

Correlation coefficients were computed between self- and peer-reported strengths and (self-reported) satisfaction with life and orientations to happiness. Mean scores and standard deviations were computed for all scales and a reliability analysis (internal consistency) was conducted. We also computed correlations between rank-ordered strengths (i.e., ordering self- and peer-rated strengths for each participant from 1 [lowest] to 24 [highest]) and the well-being measures. Park and colleagues (2004b) argued that the ipsative scoring (i.e., using the rank ordered strengths) reduces the likelihood of distortions by response biases. Table 1 lists all the coefficients sorted by the size of their correlations with life satisfaction in the VIA-IS in descending order (starting from the highest).

 Insert Table 1 about here

If computing mean level differences for the means of the VIA-IS and the VIA-IS peer, significant differences emerged for three out of the twenty-four strengths; i.e., self-ratings for gratitude $t(331) = -3.11, p < .01; d = 0.22$) and appreciation of beauty and excellence ($t(332) = -2.42, p < .05; d = 0.20$) were higher than the corresponding peer-ratings while persistence was lower in the self- than in the peer-ratings, $t(331) = 11.00, p < .001; d = 0.68$.

Reliability analyses indicated that all measures yielded satisfactory alpha-coefficients. With the exception of life of engagement ($\alpha = .61$), self-rated honesty ($\alpha = .65$) and self-rated prudence ($\alpha = .68$), all coefficients were $\geq .70$. Table 1 shows that the alphas varied as a function of the standard deviation of the scales. The reduced reliability can be explained by the restricted variance.

How do self- and peer-rated character strengths relate to life satisfaction? The correlation coefficients shown in Table 1 replicated findings from earlier studies for the self-rated strengths. Virtually all of the strengths yielded positive relations to life satisfaction. The strengths with the numerically highest correlation coefficients were hope, zest, love, curiosity, and gratitude and ranged between $r = .37$ and $r = .53$ (all $p < .01$). The median of all correlation coefficients was .21. Only three out of the twenty-four strengths yielded nonsignificant correlation coefficients (i.e., open-mindedness, appreciation of beauty and excellence, and modesty). When analyzing the rank-ordered strengths, again, hope, zest, curiosity, love (all $r > .21, p < .01$), and gratitude ($r = .19, p < .05$) correlated highest with only a slight variation in their sequence. All three orientations to happiness correlated positively with satisfaction with life

and yielded coefficients between .24 (meaning) and .37 (engagement).

The study allows for a comparison of results from self- and peer-ratings on character strengths. Across all strengths the order of the size of the validity coefficients converged well. There was a correlation of $r(23) = .84$ ($p < .001$) when computing the correlation between the rank ordered self- and peer-rated strengths. The average absolute difference among the correlation coefficients was .15 within the VIA-IS and .11 for the peer-report form. The range of the correlation coefficients was numerically higher in the self-report data ($= .52$) compared to the peer-report data ($= .41$). Ten out of the twenty-four peer-rated strengths yielded statistically significant correlation coefficients with satisfaction with life. As expected, the median of all correlation coefficients between peer rated strengths and satisfaction with life was lower than for the self-ratings (i.e., median = .21 for the self- and .10 for the peer-ratings). Table 1 shows that *hope*, *zest*, *curiosity*, gratitude and love, but also persistence, perspective, humor, self-regulation and prudence (VIA-IS peer) correlated significantly positively with life satisfaction. However, the other two strengths that typically yield the highest coefficients in self-report data (i.e., gratitude and love) were also among those with significant correlation coefficients.

How do self- and peer-rated character strengths relate to the orientations to happiness?

The correlations between character strengths (VIA-IS) and the three orientations to happiness replicated earlier findings. Overall, those strengths that yielded the highest correlation with satisfaction with life also tended to be highest correlated with the three routes to happiness. The median of the correlation coefficients between the self-rated character strengths and the *pleasant life* was .21. The correlation coefficients ranged from -.07 (appreciation of beauty and excellence, *n.s.*) and .43 (humor, zest, $p < .01$). Among other findings, it was striking that those high in bravery seemed to endorse a hedonistic stance towards life. The median of the

correlations between the *engaged life* and the VIA-IS was .28 and the correlations were between .01 (appreciation of beauty and excellence, *n.s.*) and .53 (zest, $p < .01$). Also, those higher in persistence reported higher inclination to flow-related activities. The median of the correlations between the twenty-four self-rated character strengths and *life of meaning* was .28 (from .08 for appreciation of beauty and excellence [*n.s.*] to .58 religiousness, $p < .01$). Overall, it needs to be mentioned that the strength of appreciation of beauty and excellence was the only strength that existed independently from the expression of the three orientations.

The general pattern reported for the relation of the VIA-IS peer and the orientations to happiness was similar to the findings with the VIA-IS. Overall, the rank order of the validity coefficients for self- and peer rated strengths were .87, .81 and .79, for pleasure, engagement, and meaning, respectively. As regards the absolute magnitude of the coefficients, again, hope, zest, and curiosity had outstanding positions while peer-rated love only contributed to the pleasurable life. Gratitude existed largely independently of the expression of the three orientations. The median of the correlations between the peer-rated character strengths (VIA-IS peer) and *life of pleasure* was .10, ranging between -.11 (religiousness, appreciation of beauty and excellence, $p < .05$) and .27 (hope, $p < .01$). The median of the correlations between the peer-rated character strengths and *life of engagement* was .04 (from -.13 appreciation of beauty and excellence to .29 for zest, all $p < .01$). The median of the correlations between the self-rated character strengths and *life of meaning* was .04 (with a range of -.07 for honesty [*n.s.*] to .30 for religiousness, $p < .01$).

A few more findings of the relation between the VIA-IS peer and the OTH should be highlighted. Two strengths assigned to the virtue of wisdom (i.e., love of learning and creativity) correlated with all three orientations and seemed, therefore, to be related to the full life (Peterson

et al., 2005)—despite that they were uncorrelated with the SWLS. Furthermore, those whom their peers saw as religious endorsed a meaningful life while those described as humorous were higher in the pleasurable and engaged life.

Do the Orientations to Happiness predict satisfaction with life beyond the contribution of (self and peer-rated) strengths of character? It has been shown that the three orientations to happiness correlated robustly with self and peer-rated character strengths, and that strengths as well as the three orientations to happiness correlated with satisfaction with life. However, it has not yet been explicitly tested whether the endorsement of a pleasurable, engaged, and/or meaningful life contributes to the expression of satisfaction with life beyond the contribution of character. For testing this empirically, we computed two hierarchical regression analyses with satisfaction with life as a dependent variable and self and peer rated character strengths as well as the orientations to happiness as predictors. The correlations of the orientations to happiness-scales with the VIA-IS and the VIA-peer are given in Table 1. They ranged between $-.15$ (modesty and bravery) and $.68$ (curiosity and love of learning) for the VIA-IS (median = $.31$) and between $-.14$ (creativity and modesty) and $.73$ (perspective and open-mindedness) for the VIA-IS peer (median = $.34$). Thus, the incremental contribution in the prediction of the dependent variable is in the focus of the interest. In both analyses demographics (age, gender, and educational level) entered the regression in a first step (method: enter) for controlling the potential impact of these variables in an initial step. At the level of bivariate correlations age ($r = .06$), gender ($r = .05$), and educational level ($r = .06$) existed independently from life satisfaction. In the first analysis, self-rated and in the second one, peer-rated character strengths entered the equation in a second step (enter). Finally, in both analyses the three orientations to happiness were entered in the third step to test the incremental contribution of these beyond demographics

and character strengths (stepwise).

The first regression yielded a significant multiple correlation coefficient of .49 ($F[29, 318] = 9.38, p < .001$). Given the size of the correlation coefficients, we tested for collinearity and computed the variance inflation factor (VIF) for each of the variables. All VIF coefficients were ≤ 2.94 (median = 2.18) and, therefore, in an acceptable range. The demographics did not predict satisfaction with life significantly and yielded a ΔR^2 of .01. Six out of the twenty-four character strengths (i.e., appreciation of beauty and excellence [$\beta = -.25, p < .01$], curiosity [$\beta = .15, p < .05$], gratitude [$\beta = .25, p < .01$], hope [$\beta = .27, p < .01$], love [$\beta = .25, p < .01$], and religiousness, $\beta = -.12, p < .05$) yielded significant beta weights and predicted satisfaction with life. Their ΔR^2 was .45. In the final model, two out of the three orientations to happiness entered the equation; first, life of engagement ($\beta = .14, p < .05$) followed by the meaningful life ($\beta = .12, p < .05$). Their incremental contribution to the prediction of satisfaction with life was .017 and .007, respectively. Thus, an engaged and meaningful life predicted a small portion of satisfaction with life *beyond* character strengths.

It needs to be noted that the negative beta signs in this analysis point towards suppression effects. This had to be expected given the large number of predictors in this analysis and the observed relations. Appreciation of beauty and excellence was uncorrelated and religiousness had a small positive correlation with life satisfaction. We tested several simplifications of the model and also included one model, in which we used five factors derived from the VIA-IS, which have been described in earlier studies using the German VIA-IS as well (e.g., Ruch, Proyer et al., 2010). The factor solution was highly similar to the one reported by Ruch, Proyer et al. (2010)—Tucker's Phi coefficients were .86, .95, .94, .92, and .98, respectively. In this parsimonious model (computed with the same specifications as described above), a R^2 of .30 was

found, $F[9, 318] = 14.84, p < .01$. In the final model, *interpersonal strengths* (e.g., leadership, teamwork, kindness; $\beta = .18, p < .01$), *emotional strengths* (e.g., zest, hope, love; $\beta = .38, p < .01$), and *theological strengths* (religiousness, gratitude, appreciation of beauty and excellence; $\beta = .15, p < .01$) were predictive ($\Delta R^2 = .27$). Additionally, the life of engagement had a small contribution in the prediction of life satisfaction ($\beta = .16, p < .01$; $\Delta R^2 = .02$; demographics: $\Delta R^2 = .01$). This analysis (overcoming potential problems of suppressor variables) provided support for the general notion that orientations to happiness contributed to the prediction of life satisfaction beyond strengths.

Both, the OTH and the VIA-IS predicted life satisfaction and, since there was an overlap (see Table 1), we further tested whether the *entire* predictive valence of the OTH is accounted for by the VIA-IS and whether the findings from the previous analysis could be attributed to non content-related aspects such as measurement errors. Therefore, we repeated the analysis and entered the three orientations (method: enter) in the second step after the demographics, and the strengths (method: stepwise) in the third step to the equation. Results are not reported in detail but the three orientations yielded a ΔR^2 of .17, $R^2 = .44, F(12, 318) = 20.31, p < .001$. This finding supported the notion that there was a unique contribution of orientation to happiness in the prediction of life satisfaction.

In the second regression analysis, we used the peer-rated strengths (VIA-IS peer) as predictors in step 2 of the regression (method: enter; step 1 = demographics [enter] and step 3 = orientations to happiness, stepwise). Again, we tested for collinearity and the VIF coefficients were in an acceptable range (all ≤ 4.25 ; median = 2.78). As in the previous analysis, the overall regression was significant and yielded a multiple correlation coefficient of .36 ($F[29, 322] = 5.78, p < .001$). Six out of the twenty-four peer-rated character strengths (i.e., appreciation of

beauty and excellence [$\beta = -.30, p < .01$], hope [$\beta = .30, p < .01$], love [$\beta = .24, p < .01$], curiosity [$\beta = .23, p < .01$], social intelligence [$\beta = -.23, p < .05$] and open-mindedness [$\beta = -.21, p < .05$]) yielded a significant beta weight and predicted life satisfaction. They accounted for a ΔR^2 of .27. In the final model, the life of engagement ($\beta = .24, p < .01$; $\Delta R^2 = .07$) and the pleasurable life ($\beta = .13, p < .05$; $\Delta R^2 = .01$) entered the equation after the VIA-peer (ΔR^2 for demographics = .01). Thus, an engaged and pleasurable life predicted an additional portion of satisfaction with life beyond peer-rated character strengths while the life of meaning was not predictive. Again, we computed the analysis with changing the rank order of entering the VIA scales and the OTH. The OTH scales yielded an incremental validity of .16, $R^2 = .33, F(12, 322) = 12.52, p < .001$.

Discussion

This study extends the knowledge about the relationships between strengths of character and life satisfaction in one important aspect. The study provides the first empirical evidence that not only self-reported but also strengths assessed by knowledgeable others relate positively to life satisfaction. Ten out of the twenty-four peer-rated strengths of the VIA-classification yielded statistically significant correlation coefficients. The three numerically highest coefficients for the VIA-IS peer were hope, zest, and curiosity. This converged well with the findings for the VIA-IS. There, typically curiosity, gratitude, hope, love, and zest correlate highest (see also Proyer et al., in press); in the peer ratings in this sample, love and gratitude also yielded significant coefficients (although humor and persistence were higher). This suggests that data from self-reports on strengths and life satisfaction do not seem to be biased by methodological problems (one data source; answer tendencies, response sets, etc.)— at least not to the same degree as has been found for other personality traits (see e.g., Connolly et al., 2007).

One of the major findings of the study is that peers do not only seem to be able to observe and describe character strengths in their acquaintances but that these observations also relate to the self experienced well-being of the target persons. People who are perceived as hopeful/optimistic (someone who is expecting the best in the future and working to achieve it), zestful (someone who is approaching life with excitement and energy), curious (someone who takes an interest in all of ongoing experience), and grateful (someone who is being aware of and thankful for the good things that happen) see themselves as more satisfied with their life in general—of course, the opposite relationship is also possible. Although the pattern of correlations with life satisfaction for self- and peer-rated strengths was highly similar, there were some minor variations that seem worth noting. For example, within the peer-ratings, persistence was of higher relevance than self-reported persistence. People who are perceived as perseverant and industrious seem to be more satisfied with their lives. One might argue that this relates to more frequent flow-experiences when engaging in activities that are congruent with perseverance as strength—especially those activities that are internally motivated (Peterson & Seligman, 2004; Wellenzohn, Proyer, Gander, & Ruch, 2012). Finally, an alternative explanation of the finding might be that perseverant people more often achieve their goals, especially long-term goals (see Emmons, 2003).

As expected, correlation coefficients were lower for peer-rated strengths than for self-rated strengths. For example, only two correlation coefficients (hope and zest) with life satisfaction were $\geq .30$ (r^2 were .09 and .14, respectively). Likewise, some of the coefficients were statistically significant yet practically negligible (six were $< .20$). The findings, however, are in line with expectations and generally seem to support the notion of the contribution of good character to life satisfaction. Additionally, it should be mentioned that also those correlations,

which display divergence between self- and peer-reports might point towards areas, which might be worth following up in future studies or practical applications.

Further studies are needed on the (experimental) enhancements of life satisfaction in positive interventions. There are preliminary data providing support for the notion that specific strengths (those typically displaying high correlations with life satisfaction) may preferably be targeted in interventions to enhance well-being (Proyer et al., in press). Studies in this line of research might provide ground for further developing strengths-based interventions that foster an individual's well-being (Gander et al., in press; Seligman, Steen, Park, & Peterson, 2005). Aside from the relevance of the study for interventions there are several other implications that should be mentioned. At a practical level, the study provides further support for the call to include strengths in psychological assessments and reports (Snyder, Ritschel, Rand, & Berg, 2006) but also in other settings such as career guidance and vocational counseling (Proyer, Sidler, Weber, & Ruch, 2012). This indicates that practitioners can not only focus on identifying and fostering strengths in a client but also discussing what strengths other people see in him/her and using this for the benefit of the client. Discussing the strength-related perception of others could be a helpful practical tool. In any case, the study argues for a multi-methodological approach in working with clients and their strengths. Proyer et al. (2012) suggest, for example, that vocational guidance can benefit from the inclusion of the client's strengths—not only for the purpose of selecting a profession or an education but also for uncovering potentials at work (e.g., for fostering positive experiences at work; see also Harzer & Ruch, in press, 2012). Recent studies from our working group suggest that using signature strengths at work has beneficial effects of work-related factors (Harzer & Ruch, in press, 2012).

The study also replicates earlier findings for relations of the VIA-IS with the OTH. Again,

strengths that yielded the highest correlation with life satisfaction also tended to be most highly correlated with the three routes to happiness (Peterson et al., 2007). The strengths numerically most strongly related to the pleasurable life were humor and zest; zest and persistence yielded strongest relations with engagement, and religiousness with the life of meaning. Thus, there is a stable relationship among these variables. Those strengths that were most highly related to life satisfaction were also most highly related to the three orientations to happiness with the exception of love and gratitude in the peer-ratings. Those who are seen as grateful, endorse a life of meaning while those perceived as loving have a propensity to the pleasurable life. Thus, one might argue that expressing gratitude is best observable among those people who have found a meaning in their life and who savor a life of engagement. For the case of love, one might argue that especially the pleasurable aspects of friendships and relations are prone to observations by others.

One of the peer-rated strengths did not yield significant relations to any of the three orientations to happiness; namely, *appreciation of beauty and excellence*. Among those who are perceived as noticing and appreciating beauty, excellence, and/or skilled performance in all domains of life, there are presumably people of all kinds—those who are hedonistically orientated and those who are not, those seeking flow and those who are not and those who have found meaning and those who have not. It might be that this group is more heterogeneous than it is the case in the other strengths—presumably, those who enjoy performing arts might be very different from those enjoying beautiful landscapes etc. (cf. Güsewell & Ruch, 2012). A further explanation of this finding might be that certain aspects of character strengths are comparatively more difficult to observe and describe in others (cf. Allik, Realo, Mõttus, & Kuppens, 2010; Lucas & Baird, 2006). Peterson and Seligman (2004) differentiate between phasic (can be

displayed on a constant and ongoing basis; e.g., curiosity, humor, or zest) and tonic strengths (rise and fall depending whether a given situation affords it or not; e.g., bravery, open-mindedness, or teamwork). One might argue that if people cannot observe lots of situations, in which phasic strengths could be displayed that this might have an impact on the findings. This, however, should be tested in more detail in a future study.

The pattern of correlation also revealed several less well-described findings. For example, those with higher peer ratings in bravery yielded a strong endorsement to the pleasurable life. One might argue that this supports the validity of the OTH scale as especially these persons might enjoy hedonistically oriented activities—some of which explicitly demand a certain amount of bravery (e.g., parachute jumps, bungee jumping, adventure holidays etc.).

Finally, this study shows that the OTH predicts about 16% of the variance of life satisfaction in general. This is a considerable amount and it underlines the relevance of these routes to happiness in describing what makes a satisfied life. This study indicates that the OTH has predictive power beyond self- and peer-rated strengths. Therefore, it might be fruitful to consider the three orientations as potential means for experimentally enhancing life satisfaction and well-being (see Giannopoulos & Vella-Brodrick, 2011). Especially the life of engagement seems to be strongly related to satisfaction with life.

As a further limitation of this study, it must be acknowledged that compared to other paper and pencil data collected in Switzerland (e.g., Peterson et al, 2007; Ruch, Proyer, et al., 2010), our self-rater sample scored numerically lower in life satisfaction and the engaged life. These differences may be traced back to the selection procedure; i.e., working with data from participants registering for a positive psychology program. One might argue that such programs attract people who are interested in further improving their conditions of life and well-being and

who are probably more open toward concepts such as strengths of character or orientations to happiness. Although the findings are in line with the expectations and, therefore, seem to support the suitability of the sample, it is suggested to replicate and extend the findings in a new sample. As a further limitation it should be noted that for a small number of participants the duration of the acquaintanceship could be criticized (i.e., 5.6% for less than two years). Hence in a future study a sample, which is more homogeneous regarding this aspect, would be desirable. However, it should be noted that also those peer-raters indicated that they know the target person well and it is also expected that the target persons themselves would approach people whom they trust in their judgment. Nevertheless, this aspect could be studied in more detail in a follow-up study. Additionally, it should be highlighted that some of the VIA-IS scales yield a considerable overlap; e.g., 46% shared variance between curiosity and love of learning. Although larger intercorrelations among specific scales were to be expected this could have had an impact on some of the findings reported in this study. Although tests for collinearity indicated an acceptable range, it needs to be acknowledged that the correlations between predictors could have had an impact on the findings. Hence, the contribution of individual predictors should be discussed conservatively and the main focus of the argument should rather be placed on the contribution of strengths and/or orientations to happiness as a whole rather than the single strengths. Additional analyses based on a more parsimonious model (i.e., using a lower number of predictors) supported the notion that the orientations to happiness have an incremental predictive power above the contribution of the strengths. Overall, this study demonstrates that the association between character strengths, orientation to happiness and life satisfaction is stable across self- and peer-ratings and that character relates positively to well-being.

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Table 1

Descriptive Statistics, Reliabilities, and Correlations Among Self- and Peer-Rated Character Strengths and Life Satisfaction, and Orientations to Happiness (Controlled for Age, Gender, and Educational Level)

Scales	Self-rated character strengths								Peer-rated character strengths						
	<i>M</i>	<i>SD</i>	α	<i>SWL</i>	<i>SWLR</i>	<i>LP</i>	<i>LE</i>	<i>LM</i>	<i>M</i>	<i>SD</i>	α	<i>SWL</i>	<i>LP</i>	<i>LE</i>	<i>LM</i>
Hope	3.45	.56	.77	.53**	.41**	.37**	.44**	.31**	3.50	.57	.81	.37**	.27**	.21**	.14**
Zest	3.48	.52	.75	.45**	.29**	.43**	.53**	.24**	3.62	.54	.80	.30**	.23**	.29**	.12*
Love	3.68	.52	.74	.44**	.21**	.28**	.31**	.29**	3.81	.52	.78	.18**	.14**	.00	.04
Curiosity	3.96	.50	.80	.38**	.24**	.32**	.42**	.29**	3.97	.51	.82	.24**	.16**	.24**	.16**
Gratitude	3.69	.50	.79	.37**	.19*	.30**	.29**	.37**	3.58	.51	.81	.16**	.09	.03	.13*
Perspective	3.48	.48	.77	.32**	.06	.22**	.32**	.39**	3.64	.50	.80	.13*	.10	.02	.02
Humor	3.53	.56	.84	.31**	.10	.26**	.39**	.29**	3.59	.59	.87	.19**	.22**	.15**	.04
Bravery	3.48	.50	.75	.31**	.11*	.43**	.27**	.28**	3.67	.49	.74	.10	.16**	.05	.03
Persistence	3.31	.55	.81	.26**	.03	.17**	.49**	.13*	3.70	.59	.86	.21**	.03	.19**	-.05
Social Intelligence	3.59	.46	.75	.26**	-.04	.34**	.27**	.28**	3.66	.49	.77	.08	.16**	-.02	.03
Self-regulation	3.20	.56	.73	.25**	-.02	.07	.27**	.18**	3.41	.59	.78	.14**	.02	.07	.02
Teamwork	3.55	.45	.70	.22**	-.10	.16**	.18**	.22**	3.64	.49	.78	.07	.05	-.11*	.01

(Table 1 continued)

Scales	Self-rated character strengths								Peer-rated character strengths						
	<i>M</i>	<i>SD</i>	α	<i>SWL</i>	<i>SWLR</i>	<i>LP</i>	<i>LE</i>	<i>LM</i>	<i>M</i>	<i>SD</i>	α	<i>SWL</i>	<i>LP</i>	<i>LE</i>	<i>LM</i>
Forgiveness	3.52	.55	.82	.19**	-.06	.10	.15**	.16**	3.53	.52	.80	.04	.05	-.03	.03
Honesty	3.72	.40	.65	.17**	-.14**	.18**	.36**	.15**	3.99	.45	.73	.08	-.01	-.03	-.07
Leadership	3.54	.45	.74	.17**	-.15**	.21**	.31**	.32**	3.61	.52	.83	.12	.10	.08	.13*
Religiousness	2.92	.80	.88	.16**	.05	.01	.18**	.58**	3.01	.75	.88	.06	-.11*	.04	.30**
Kindness	3.80	.44	.70	.15**	-.14**	.09	.25**	.17**	3.87	.49	.77	.06	-.06	-.06	-.01
Prudence	3.28	.49	.68	.15**	-.12*	.19**	.18**	.27**	3.54	.54	.77	.11*	.11*	.02	.02
Love of learning	3.81	.57	.83	.14**	-.06	.19**	.35**	.30**	3.86	.61	.84	.10	.14**	.19**	.14**
Fairness	3.89	.43	.74	.13*	-.15**	.14**	.24**	.26**	3.82	.51	.82	.01	.02	-.07	.04
Creativity	3.53	.60	.87	.12*	-.05	.24**	.33**	.31**	3.60	.61	.87	.09	.15**	.24**	.11*
Open-mindedness	3.74	.44	.76	.10	-.15**	.21**	.26**	.24**	3.78	.55	.87	.02	.07	.01	-.04
Beauty	3.55	.51	.72	.01	-.21**	-.07	.01	.08	3.44	.58	.80	-.03	-.11*	-.13*	-.01
Modesty	3.20	.53	.75	.01	-.26**	.29**	.23**	.27**	3.41	.61	.81	-.04	.07	.06	.09

(Table 1 continues)

(Table 1 continued)

Scales	Self-rated character strengths								Peer-rated character strengths						
	<i>M</i>	<i>SD</i>	α	<i>SWL</i>	<i>SWLR</i>	<i>LP</i>	<i>LE</i>	<i>LM</i>	<i>M</i>	<i>SD</i>	α	<i>SWL</i>	<i>LP</i>	<i>LE</i>	<i>LM</i>
<i>MD</i>	3.53	.51	.75	.21	-.05	.21	.28	.28	3.63	.53	.81	.10	.10	.04	.04
<i>SWL</i>	4.48	1.17	.87	--	--	.27**	.37**	.24**	--	--	--	--	--	--	--
<i>LP</i>	3.15	.70	.73	--	--	--	.38**	.12*	--	--	--	--	--	--	--
<i>LE</i>	2.90	.61	.61	--	--	--	--	.33**	--	--	--	--	--	--	--
<i>LM</i>	2.98	.76	.73	--	--	--	--	--	--	--	--	--	--	--	--

Note. *N* = 325-334 for self-reports. *N* = 636 for peer-reports (for 32 participants only one rating entered the analysis). α = Cronbach's-alpha.

SWL = Satisfaction with Life Scale. *SWLR* = Satisfaction with Life Scale, Pearson correlations between Satisfaction with Life Scale and rank ordered self-rated character strengths. *LP* = Life of Pleasure; *LE* = Life of Engagement; *LM* = Life of Meaning.

p* < .05. *p* < .01.